Bachelor of Science (B.Sc.) (CBCS Pattern) First Semester

BIO-02 - Biotechnology Paper-II (General Microbiology)

P. Pages : 2 **GUG/W/18/11563**

Time : Three Hours * 3 6 3 8 * Max. Marks : 50

Notes : 1. All questions are compulsory.
2. All questions carry equal marks.

1. Give details about principle, working and Applications of TEM. **10**

OR

a) Differentiate between optical microscope and electron microscope. **2½**

b) Write a note on Dark field microscopy. **2½**

c) Enlist the contribution of Louis Pasteur. **2½**

d) Describe Resolving power of microscope with example. **2½**

2. What are Endospores? Give detailed account of events involved in Endospore formation. **10**

OR

a) Draw a well labelled diagram of typical bacterial cell. **2½**

b) Write a note on Gram positive bacterial cell wall. **2½**

c) Give a brief account on types of plasmids. **2½**

d) Describe the salient features of Arehea. **2½**

3. What are stains? Give the principle & procedure of Endospore staining. **10**

OR

a) Give the General characters of yeast. **2½**

b) Describe Icosahedral symmetry of viruses. **2½**

c) Write general characters of protozoa. **2½**

d) Describe lytic cycle in brief. **2½**

4. What is bacterial growth? Explain the different phases involved in Bacterial growth curve. **10**

OR

a) Write a note on chemostat. **2½**

b) Describe in brief about physical conditions required for growth. **2½**

c) Discuss in brief about microbial control by Radiation. **2½**

d) Describe the isolation of pure culture by pour plate method. **2½**

5. Solve **any ten** of the followings.

a) Who proposed Germ theory of disease. **1**

b) Who is father of vaccination"? **1**

c) Define "Numerical aperture" **1**

d) What is peritrichous flagella? **1**

e) What are pili? **1**

f) What are conjugative plasmids? **1**

g) Write the name of any two economically important molds. **1**

h) Define "Simple staining" **1**

i) What is pro-phage? **1**

j) Define generation time. **1**

k) What is "pure culture"? **1**

l) Write the names of any two chemicals used in microbial control. **1**

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